REMARKS

Claims 41-69 are pending in the present application.

Paragraph 1 of the Office Action objects to Figure 9 of the drawings because of two occurrences of the term "MOLHER," which each should read "MOTHER." Applicants have amended Figure 9 (as illustrated in the Replacement Sheet 6/17 enclosed herewith), replacing the term "MOLHER" with "MOTHER".

Paragraph 2 of the Office Action objects to the drawings under 37 CFR § 1.83(a) as not illustrating the coding system in a TDMA environment as recited in claim 69). Applicants have hereby canceled claim 69, rendering this objection moot. Applicants have deemed claim 69 as being unnecessary, because the other claims do not specify either a CDMA or TDMA environment (nor do they exclude either environment), and thus the other claims are broad enough to cover coding systems in both TDMA and CDMA environments (as supported by the specification).

Applicants, therefore, respectfully submit that the foregoing drawing objections have been overcome.

Paragraph 3 of the Office Action objects to the Specification based on the following informalities, as recited in the Office Action:

(a) "On page 4, line 15, 'best rate 1/2 constituent code universal' apparently should read as, 'best universal rate 1/2 constituent code'." In response, Applicants have amended the Specification accordingly.

(b) "On page 4, line 31, 'the a' apparently should read as 'a'." In response, Applicants have amended the Specification accordingly.

(c) "On page 16, lines 12-13, reference is made to 'rate 1/3 puncturing patterns,' in a context where the rate 1/3 code is apparently unpunctured." Applicants respectfully traverse this objection, because the reference to the "rate 1/3 puncturing pattern" is a reference to the puncturing pattern and not to a punctured rate 1/3 constituent code. The Specification illustrates this in the preceding steps recited on page 16, wherein the rate 1/3 constituent code is formed by puncturing a rate 1/2 constituent code with a rate

1/3 puncturing pattern. Specifically, referring to step 1, two rate 1/2 constituent encoders are selected. In step 2, Turbo Code rate 1/2 and 1/3 test puncturing patterns are then determined for application to the data output by the two rate 1/2 constituent encoders. In step 3, all possible rate 1/2 and rate 1/3 Turbo codes are formed by combining each rate 1/2 constituent code pair with the rate 1/2 and rate 1/3 test puncturing patterns. Applicants have amended the Specification at page 16 (as presented above) to more clearly recite this process.

Applicants, therefore, respectfully submit that the foregoing specification objections have been overcome.

Paragraph 4 of the Office Action objects to claims 57, 58 and 66-69 based on the following informalities, as recited in the Office Action:

(a) "In claim 57 and 66: in line 4, 'test patterns' is vague and apparently should read as 'test puncturing patterns'." In response, Applicants have amended claims 57 and 66 accordingly.

(b) "In claim 58: 'method claim 54' apparently should read as 'method of claim 54'." In response, Applicants have amended claim 58 accordingly.

(c) "In claim 67: 'method claim 63' apparently should read as 'method of claim 63'." In response, Applicants have amended claim 67 accordingly.

(d) "In claim 68: in line 6, 'constitute' apparently should read as 'constituent'." In response, Applicants have amended claim 68 accordingly.

(e) "In claim 69: the claimed subject matter is not shown in the drawings." As explained above, Applicants have canceled claim 69.

Applicants, therefore, respectfully submit that the foregoing claim objections have been overcome.

The Office Action rejects claims 41-67 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

Claims 41 and 50 stand rejected based on the recitation regarding "a reduced signal to noise ratio loss" – which is alleged as being indefinite as it does not clearly recite what the reduction is relative to. Further, claim 43 stands rejected based on the recitation of "alternately puncturing parity bits between the first and the second encoder" with respect to SNR loss potentials, based on the same reasoning of the rejection of claims 41 and 50. Further, claims 41 and 50 stand rejected based on the recitation of "at least one parity bit," – which is alleged as being indefinite based on the reasoning that if each constituent encoder only outputs one parity bit, then "all possible equivalent-rate puncturing patterns applicable to a single bit from both encoders would apparently have equivalent signal-to-noise ratio loss potential ... ." In response, Applicants have amended claims 41 and 50 to recite that the data being processed "is comprised of at least one information block", and each encoder produces "a plurality of parity bits for each information block." Claims 41 and 50, as amended, thereby permit a choice between equivalent-rate puncturing patterns that result in differing signal-to-noise ratio effects.

Claim 43 stands rejected based on the recitation "alternately puncturing parity bits between the first and second encoder" as being indefinite because the Office Action contends that the two alternatives encompassed therein appear to be identical with respect to signal-to-noise ratio loss potentials. Applicants submit that claim 43 does not encompass only two alternatives, but rather encompasses several alternative that would result in differing signal-to-noise ratio losses. For example, the puncturing patterns of 10, 01, 1100 and 111000 would all result in a rate 1/2 code, with the patterns of 1100 and 111000 resulting in a higher signal-to-noise ratio loss as compared to the patterns 10 and 01. Claim 43 also stands rejected based on the recitation "one of the puncturing steps" being indefinite because the base claim 41 recites only one puncturing step. In response Applicants have amended claim 43, replacing "one of the puncturing steps" with "the puncturing step".

Claims 44 and 52 stand rejected based on the recitation of "transmitting all of the parity bits at the first and second encoder" as a "puncturing step" being indefinite because it is "self-contradictory". In response, Applicants have amended claim 44 to recite the "transmitting" step as "the step of transmitting all the parity bits resulting from the puncturing step at the first and second encoder", and amended claim 52 to recite the "transmitting" step as "the step of transmitting all the resulting parity bits produced by the determining step at each of said first and second encoder". Further, claims 44 and 52 stand rejected based on the recitation "one of the puncturing steps" being indefinite because the respective base claims 41 and 50 recite only one puncturing step. Applicants submit that the amendments of claims 44 and 52, addressing the foregoing rejection, render this rejection moot.

Claims 54, 59 and 63 stand rejected based on the recitation "universally adapted to accommodate" being unclear as not corresponding to the disclosure (the Office Action suggests amending this recitation to read as "universally adapted to best accommodate". In response, Applicants have amended claims 54, 59 and 63, replacing the recitation "universally adapted to accommodate" with "universally adapted to optimally accommodate".

Paragraph 7 of the Office Action indicates that claims 41-67 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph, set forth in the Office Action. Applicants submit that, as presented above, all pending claims (as amended) overcome the § 112 rejections. Further, paragraph 8 of the Office Action states that claims 68 and 69 are allowed. Applicants, therefore, respectfully submit that all pending claims are in condition for allowance and notice to this effect is respectfully requested.

If, however, the Examiner believes that there are any unresolved issues requiring adverse action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Craig Plastrik, at 301-601-7252, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

Dated: 4/9/2004

Craig Plastrik
Reg. No. 41,254

HUGHES ELECTRONICS CORPORATION
Customer No. 20991